Programmes After Market Services
TME-3 Series Transceivers

General Information

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Table of Contents

Page No
Introduction to TME-3 5
Product and Module List 5
TME-3 with accessories 6
TME-3/Nokia 30 and accessories: 7
Technical Specifications 8
Dimensions 8
Modes of Operation 8
Data transmission 8
User Interface Features 9
Environmental Conditions 9
Free Fall 9
User Interface Features 10
Start-up Operation 10
Normal Operation 11
Special Operation 11
SW features 11
Power supply 12
Data cable connection 12

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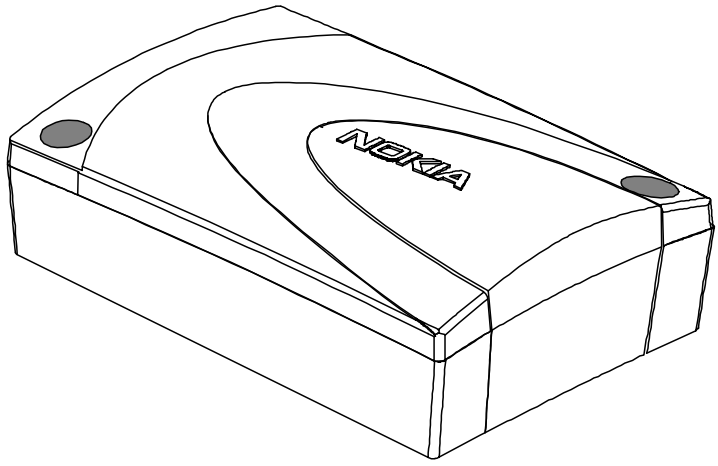
Introduction to TME-3

Nokia TME-3 (Nokia 30) is an enhanced GSM900 and GSM 1800 phase 2/2+ type GSM Connectivity Terminal. The maximum output power in GSM900 system is 2 W (power class 4 and in GSM1800 1 W (power class 1).

The Nokia 30 GSM Connectivity Terminal is a M2M (machine-to-machine) communications device with versatile interfaces and advanced functions. Connected to different machines and devices it provides wireless connectivity and remote management possibilities for customer applications. It offers GPRS, USSD, high-speed data, as well as other advanced services, over EGSM900/GSM1800 networks. It is a perfect fit for various application environments for its size, versatility and reliability.

The TME-3 does not include keypad and display, TME-3 user interface comprises three leds. The leds indicate for example incoming calls and field strength signal level.

Figure 1: Nokia 30 GSM Connectivity Terminal



Product and Module List

Name of module	Type code	Material code	Notes
Transceiver	TME-3	0600344	
Assembly parts	MTME3	0262539	Assembly parts must be ordered as separate spare parts

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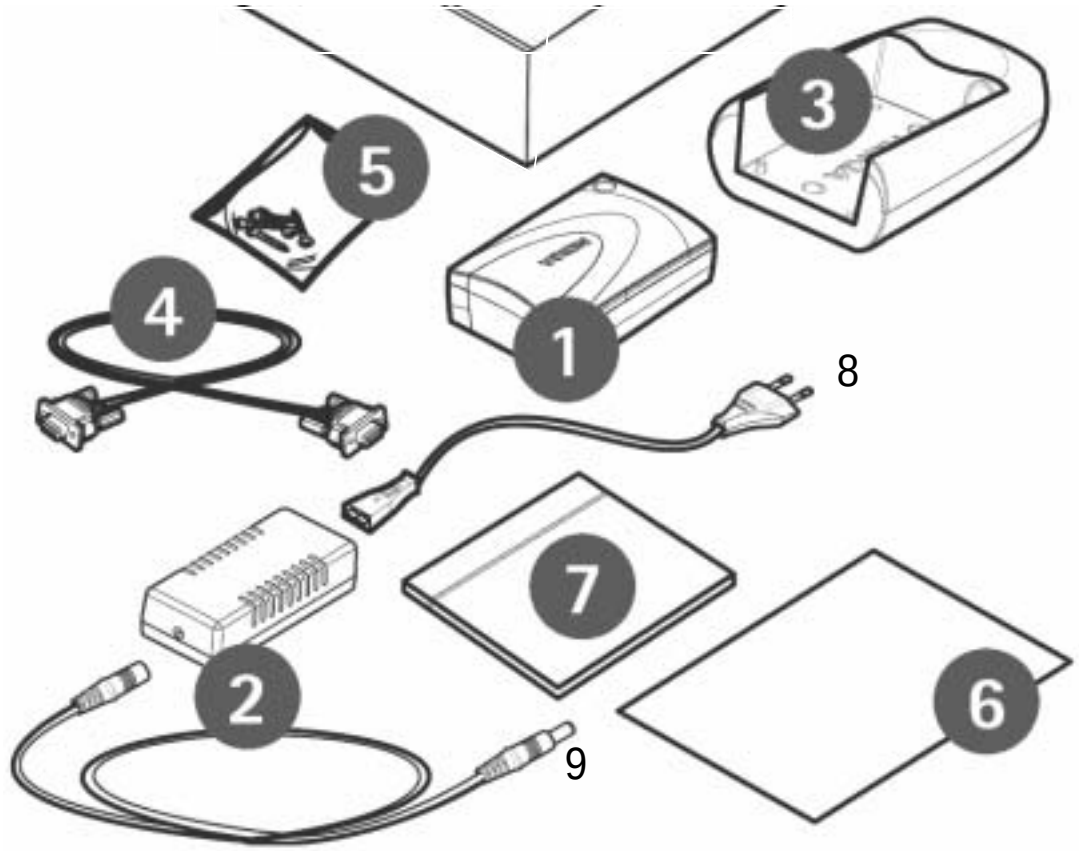
TME-3 with accessories

Figure 2: Product with accessories



Nokia 30 and accessories:

Item	Name	Type code	Material code
1	Nokia 30 GSM Connectivity Terminal	TME-3	0600344
2	Power supply unit	ACW-5	0630527
3	RS-232 Data adapter	DAU-12	0630452
4	RS-232 Data cable	AXS-3	0730249
5	Nokia 30 installation kit	TME-3	0262712
6	Nokia 30 Product Note		9357345
8	Power cable DC		0730244
9	Power cable AC (Euro)		0730248

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TME-3/Nokia 30 and accessories:

Item	Name	Type Code	Material code
1.	Transceiver	TME-3	0600344
	Transceiver Amena	TME-3	0600345
	Transceiver Vodafone	TME-3	0600346
	Transceiver Movistar	TME-3	0600347
	Transceiver Czech	TME-3	0600358
	Transceiver Poland	TME-3	0600359
	Transceiver Russia	TME-3	0600360
	Transceiver China	TME-3	0600361
	Transceiver Turkey	TME-3	0600362
	Transceiver South Africa	TME-3	0600374

Item	Chargers	Product code:
2.	Power supply unit (ACW-5A)	0630527
	Power supply unit (ACW-5A)	0675341
	DC-power cable (3.0 mm plug)	0730244
	AC-power cable (Euro)	0730248
	AC-power cable (U.K)	0730247
	AC-power cable (U.S.)	0730246
	AC-power cable (AS)	0730245
	AC-power cable (China)	-
	Accessories	Product code:
3.	Data adapter RS-232 (DAU-12)	0630452
4.	Data cable RS-232 (AXS-3)	0730249
5	Installation Kit	0262712
6.	Nokia 30 Product note (en-ge-fr-sp-rs-hu)	9357345
	Nokia 30 Product note (en-tr-pl-ro-bg-uk)	9361026
	Nokia 30 Product note (en-fi-sw-it-pr-du)	9361027
	Nokia 30 Product note (en)	9361028
	Nokia 30 Product note (en-ch-ch-ch)	9354882
	Nokia 30 Product note LSA (en-sp-pr)	-
	External antenna cable (XRM-1)	0730262

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Technical Specifications

Dimensions

Unit	Dimensions (mm)	Weight (g)	Notes
TME-3 terminal	84 x 53 x 26	65	Without Power supply, Data adapter and Data cable

Modes of Operation

TME-3 terminal has three operating modes,

- M2M system mode
- AT command mode.
- User control mode

The M2M system mode offers many unique benefits such as wireless bearer selection (GPRS, USSD, HSCSD, CSD, SMS), ready made protocol stacks, separation of data transfer from the application and the possibility to introduce new technologies without changing the application. It offers an open interface for application developers as well as effective and reliable methods for controlling the terminal and the application.

In the AT command mode the Nokia 30 GSM Connectivity Terminal can be used as a wireless modem for data and fax communication when attached to a PC. In addition to a PC, the terminal can be controlled directly by AT commands by PCs and compatible devices and machines.

In the user control mode the Nokia 30 GSM Connectivity Terminal is controlled by a mobile phone. Text message templates that are sent from the mobile to the Nokia 30 instruct the terminal, which in turn controls a device or machine attached to it through the M2M System connector.

Data transmission

The Nokia 30 GSM Connectivity Terminal supports five bearers for wireless data transfer, which can be used where GSM networks support them.

· General Packet Radio Service (GPRS)

· High speed circuit switched data (HSCSD)

· Circuit switched data (CSD)

· Short messages (SMS)

· Unstructured Supplementary Service Data (USSD)

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General Packet Switched Service (GPRS) utilizes packet switched technology where information is transmitted in small bursts of data. The GPRS mobile station class of the Nokia 30 is class B. This means that both GPRS connections and circuit switched connections are possible, although it has to be defined which one is used each time. The Nokia 30 supports GPRS multi-slot class 6, thus multiple timeslots can be used for data transfer at the same time: 3 + 1, 2 + 2 or 2 + 1 slots.

RS-232 connection: All wireless bearers can be controlled either with AT in the AT Command mode or with CORBA method calls when the terminal is working in the M2M System mode.

User Interface Features

User Interface consist of LED light indicators that show the state of the TME-3 that is used to remotely control the Nokia 30. Terminals can also be seen as a user interface.

The small SIM (Subscriber Identity Module) card interface supports 3V SIM cards.

Environmental Conditions

Parameter	Ambient temperature (degrees Celsius)	Ambient humidity (relative)
Ambient temperature	-10 to +55	20 to 75%
Storage temperature	-40 to +85	5 to 95%, non condensing

TME-3 is not protected against ingress of water.

Free Fall

TME-3 does not break mechanically after free fall from 100 cm height to concrete floor.

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User Interface Features

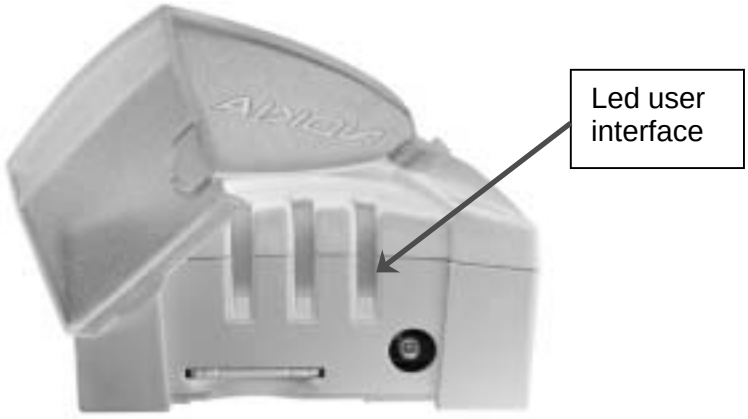
Three light indicators (LEDs) form the user interface of the TME-3.

LED 1 shows the terminal status, while the other two are reserved for the application module following start-up.

During start-up and special operations, all three light indicators are in terminal use. The functionality of the light indicators in start-up, normal, and special situations is described below.

All three LEDs can also be configured so that they will not show any status and will remain off during any operation.

Figure 3: UIF LEDs



Start-up Operation

Table 1: Start-up Operation:

LED 1	LED 2	Status LED	Description	
-	-	-	Power off / silent mode	
Green scan	Green scan	Green scan	Power on, connecting to network	
-	Red blink	-	PIN query / new PIN query	
-	Red blink	Red blink	PUK query	
			Intensity of Field Strength:	
Red blink	-	-	Non-acceptable	<-105 dBm
Green Blink	-	-		-105 ... -100 dBm
Green	-	-	Weak	-100 ... -95 dBm
Green	Green Blink	-		-95 ... -90 dBm
Green	Green	-	Moderate	-90 ... -85 dBm
Green	Green	Green Blink		-85 ... -80 dBm
Green	Green	Green	Good	>-80 dBm

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Normal Operation

Table 2: Normal Operation:

LED 1	LED 2	Status LED	Description
*	*	Green	In service
*	*	Green blink	Call on
*	*	Green blink	Incoming call
*	*	Green/Red blink	Message received / Voice mail in box
*	*	Red blink	Message arriving and memory is full

*) Application module controllable in M2M System mode

Special Operation

Table 3: Special Operation:

LED 1	LED 2	Status LED	Description
Green/Red blink	Green/Red blink	Green/Red blink	Insert SIM card
Red blink	Red blink	Red blink	Failure, contact service
Yellow	Yellow	Yellow	Initialising

SW features

Basic functionality:	Voice, data, fax, SMS
Data features:	GPRS Class B, HSCSD, SMS, USSD
GSM supplementary services:	ETSI GSM phase 2+ Network
Audio features:	Digital/analog audios
Operation modes	M2M System mode
	AT Command mode
	User Control mode

Serial Interfaces	M2M system port
	RS232 system port
	WIOP sw
PC software	Phoenix service software product specific module
	Configurator for Nokia GSM Connectivity Terminals

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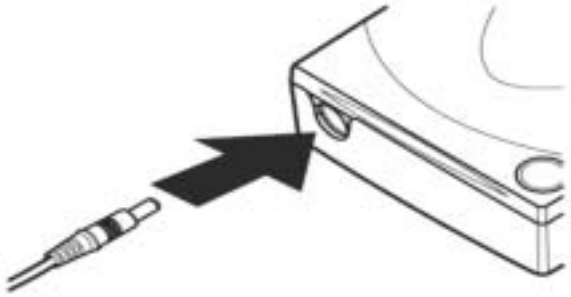
Power supply

Power supply cord connected to TME-3:

Figure 4: Power to TME-3

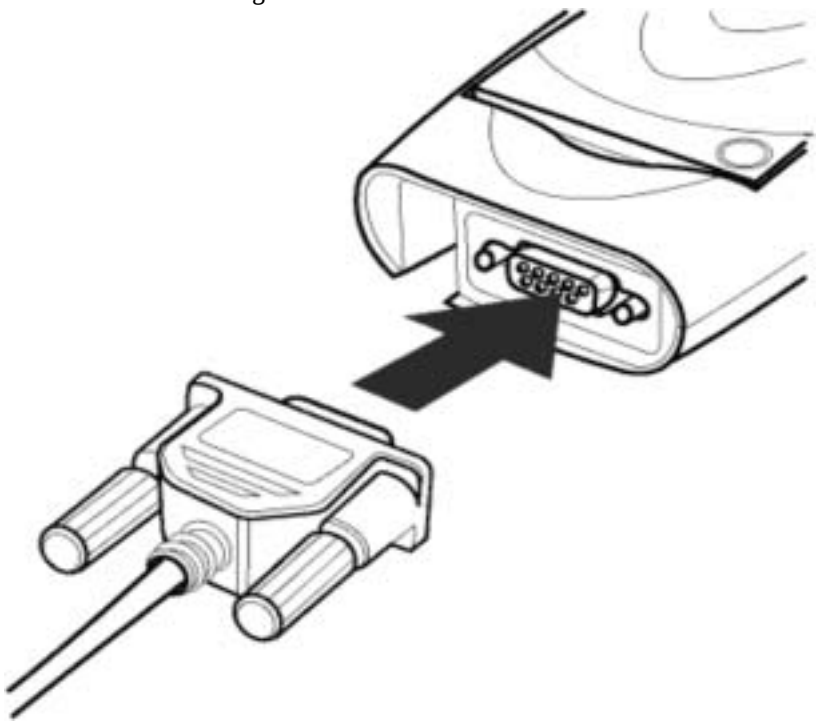


With DAU-12 connected the power supply cord is always connected to TME-3

Figure 5: Power supply with DAU-12 connected

Data cable connection

Figure 6: Data cable to DAU-12



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